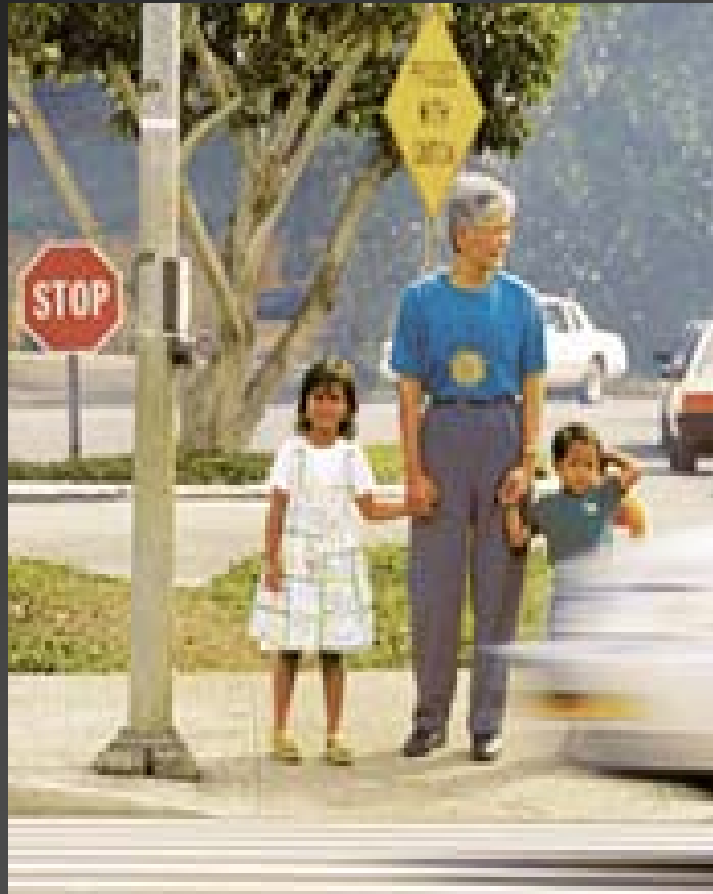


Creating Safe and Active Living Environments in Hawaii



SHCC

Safe & Healthy Communities Consulting

Training, technical assistance and
strategy development for integrating
public health into land use and transportation planning

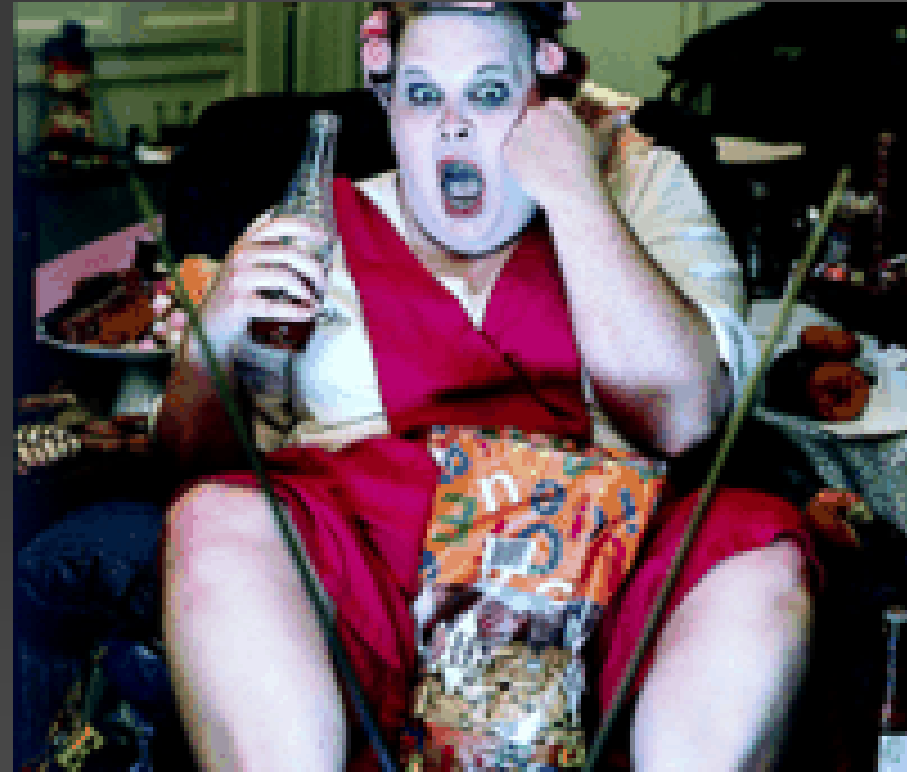
CITY OF OXFORD

St. Clement's No 9 Cleavage Area



The burden of physical inactivity

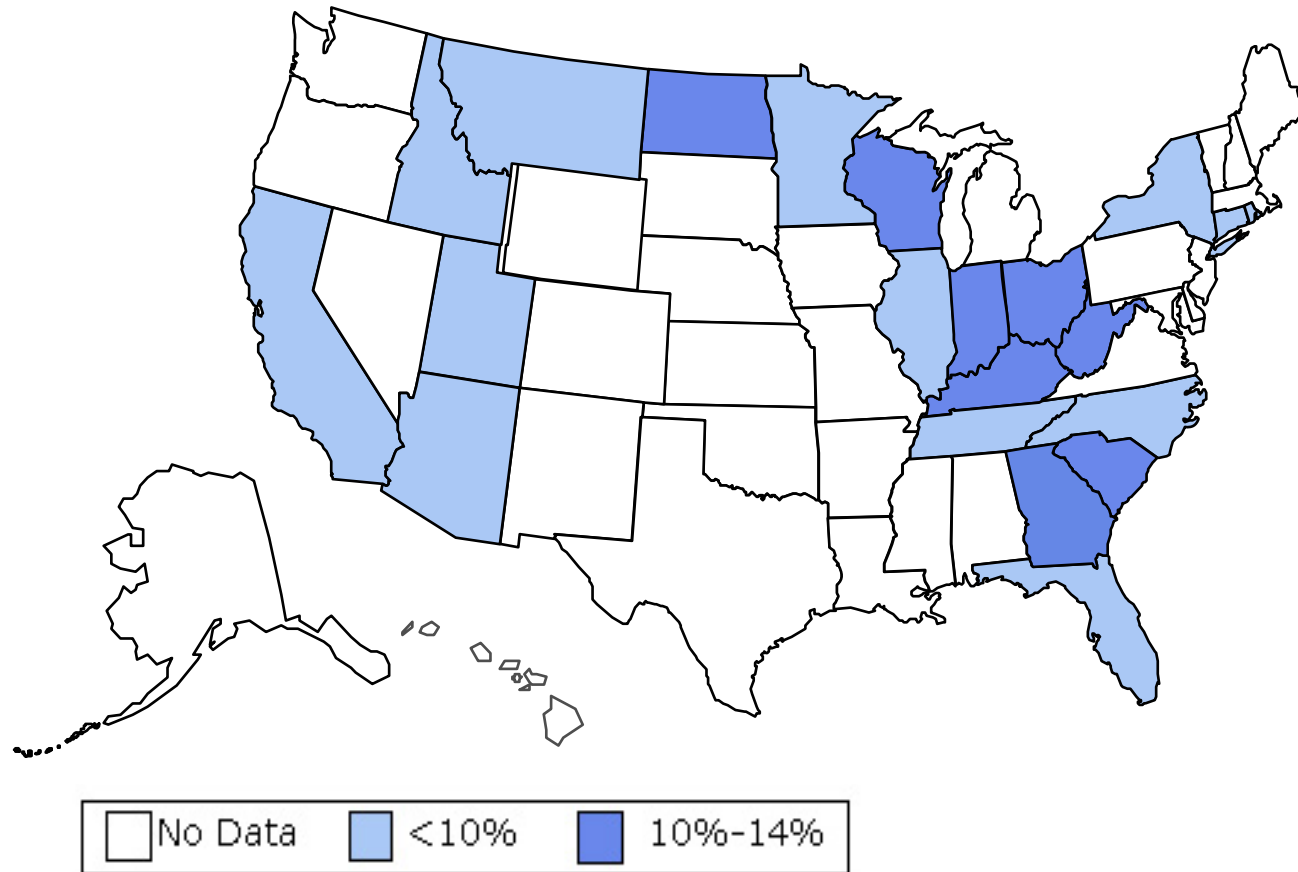
- The Problem
 - 25% of adults are sedentary
 - 60% of adults not active enough
- The Outcome
 - Obesity, cardiovascular disease, cancer, diabetes, depression
 - Physical inactivity is a primary factor in over 250,000 deaths annually.
- Medical costs associated with physical inactivity and its consequences may exceed \$76 billion annually.



Obesity Trends* Among U.S. Adults

BRFSS, 1985

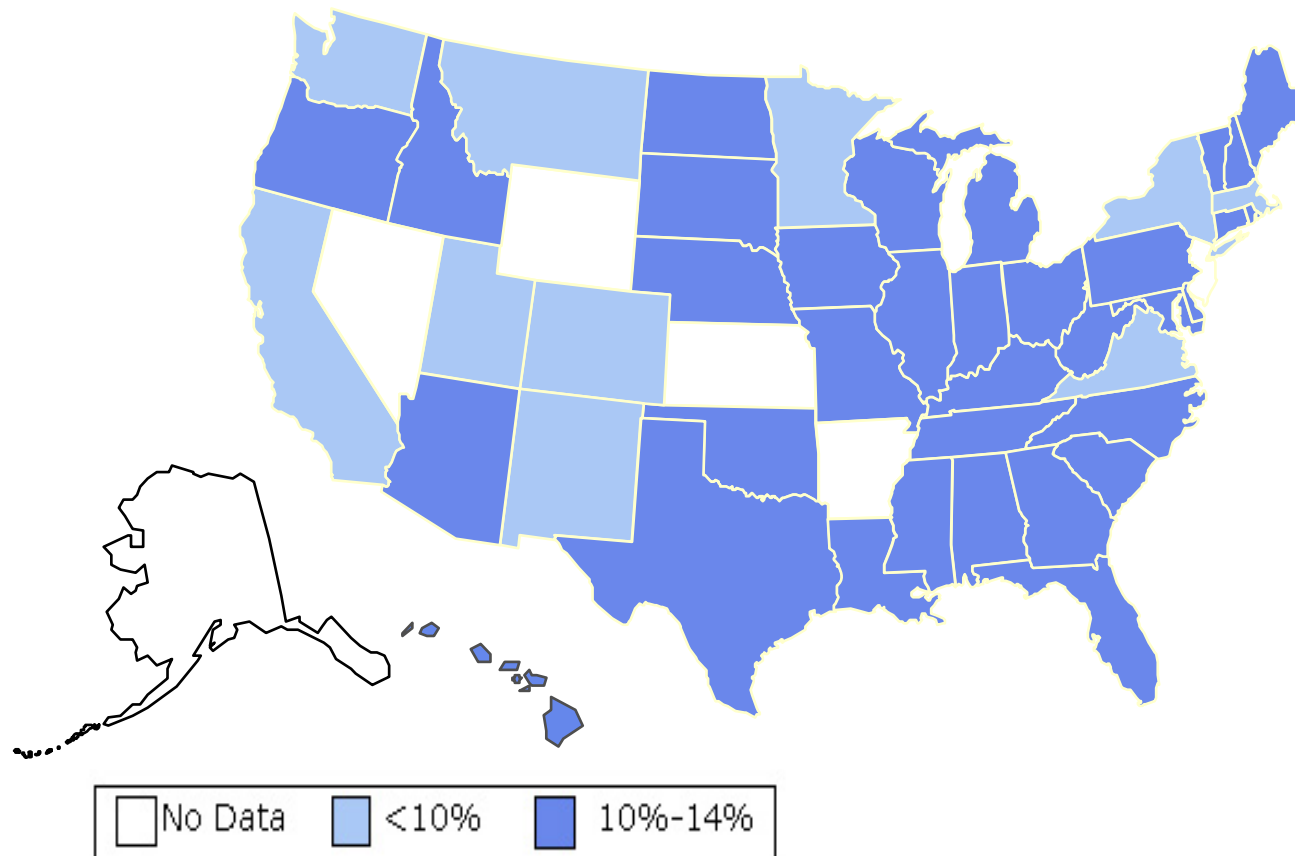
(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



Obesity Trends* Among U.S. Adults

BRFSS, 1990

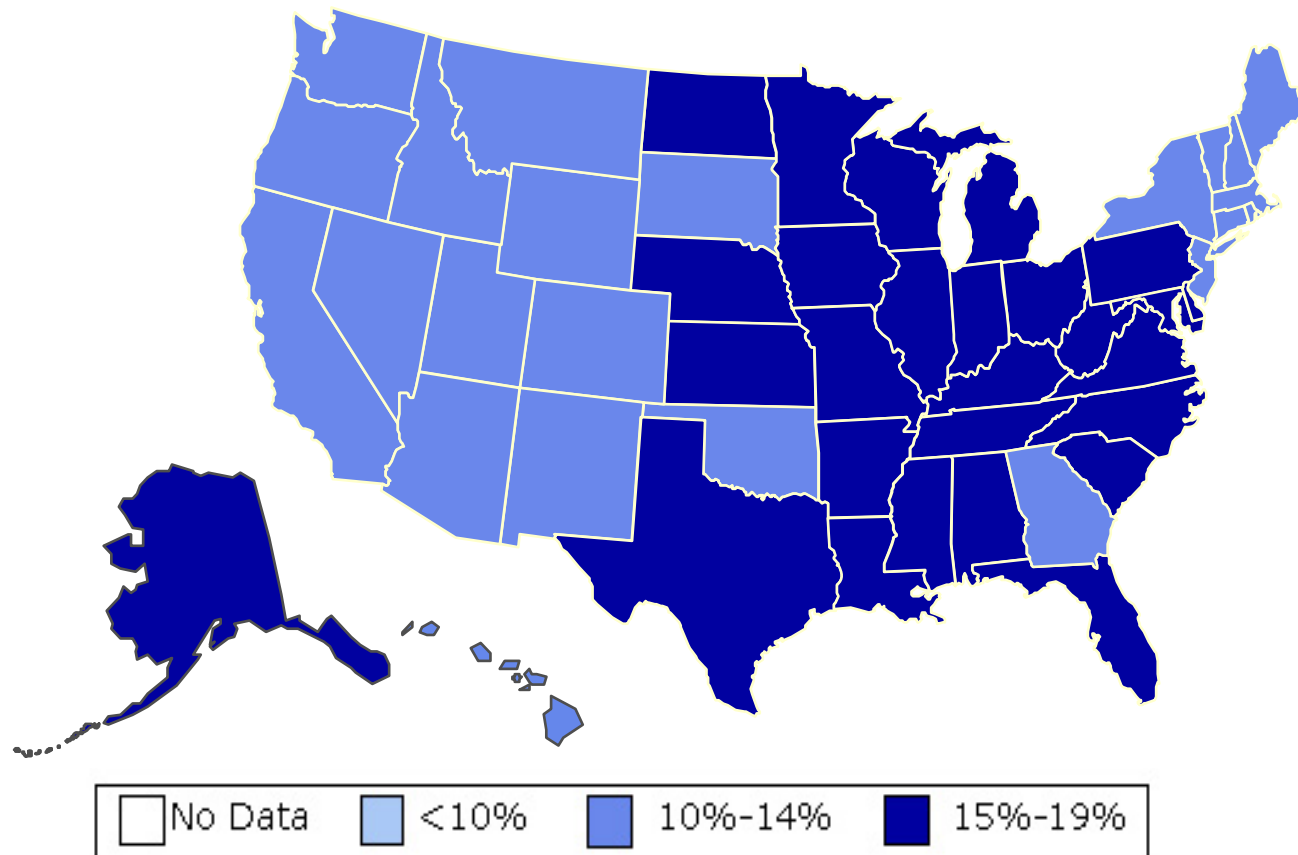
(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



Obesity Trends* Among U.S. Adults

BRFSS, 1995

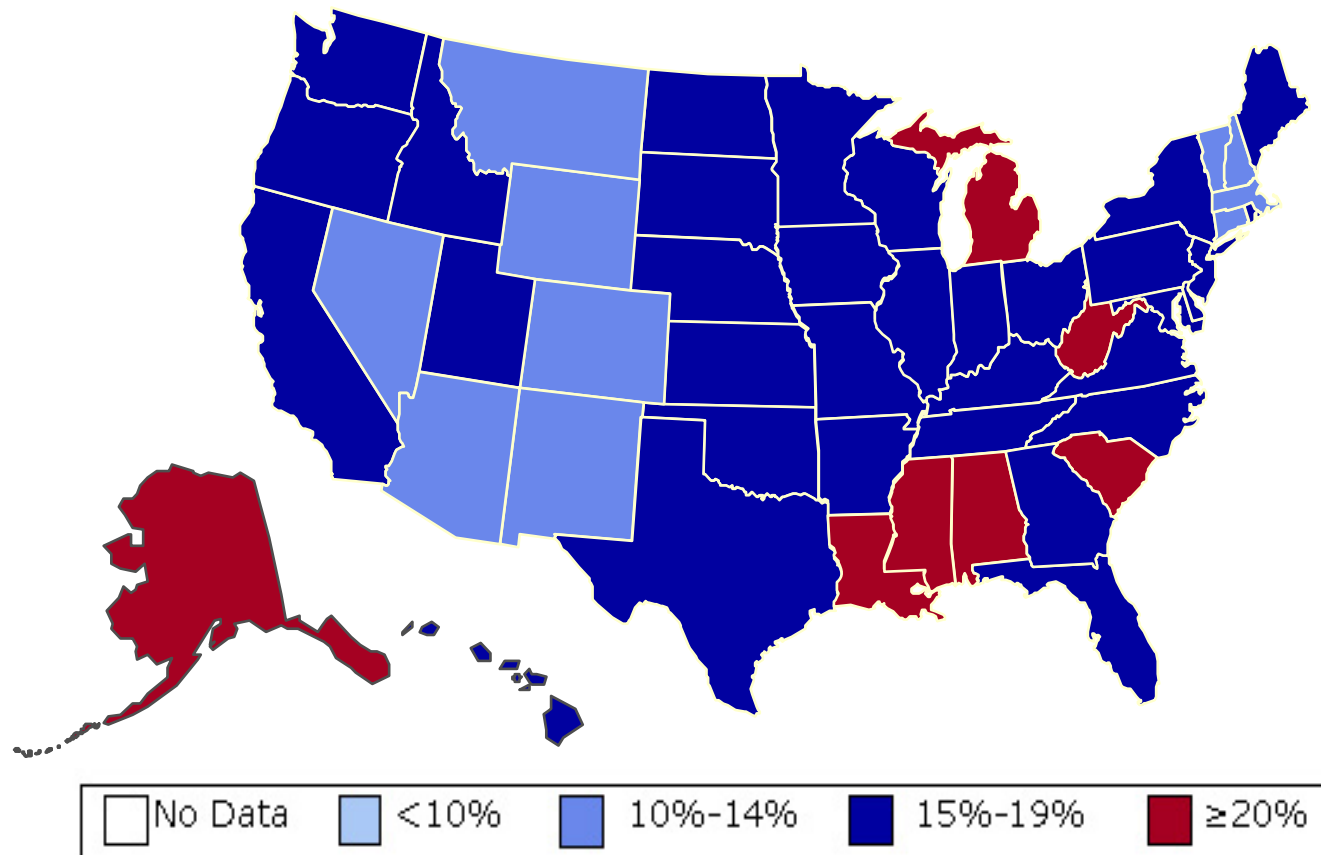
(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



Obesity Trends* Among U.S. Adults

BRFSS, 1998

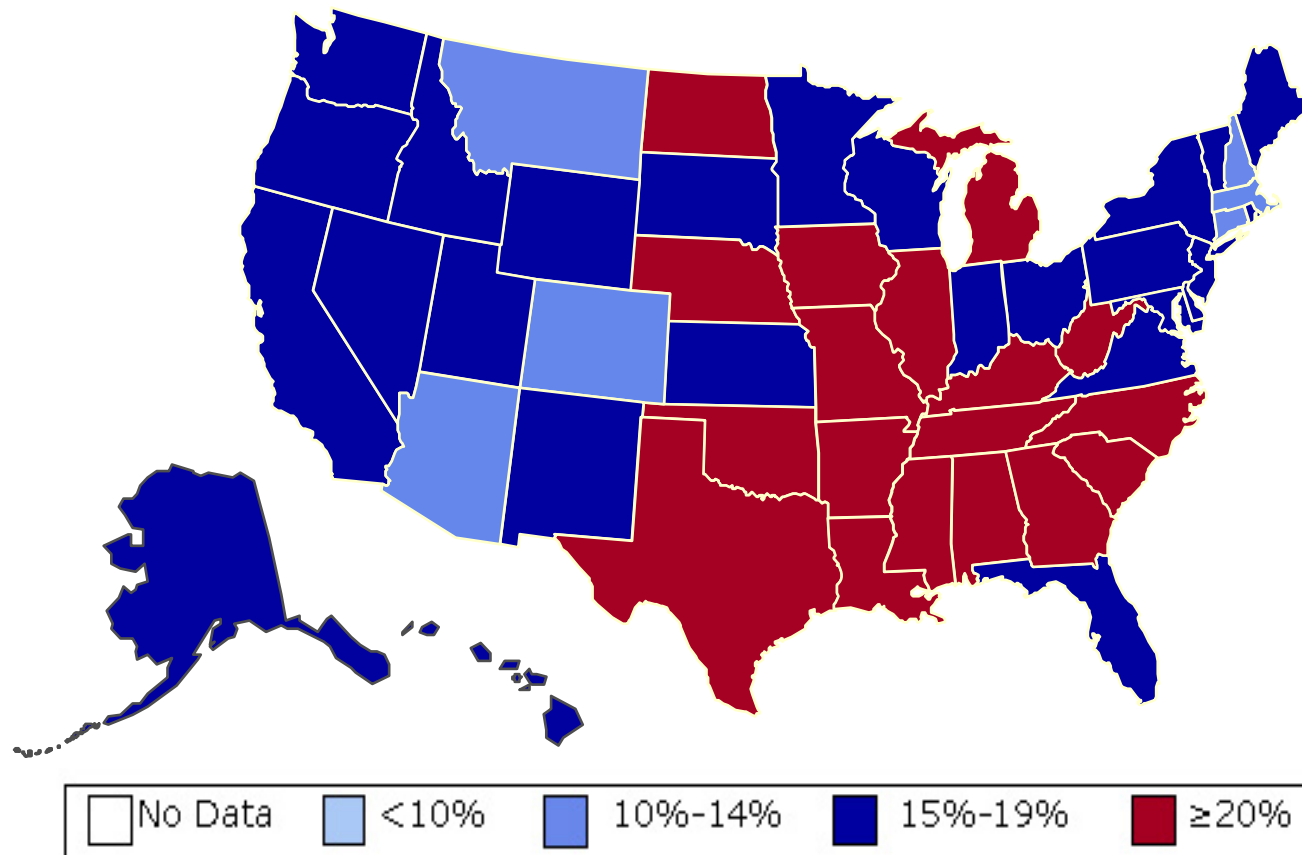
(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



Obesity Trends* Among U.S. Adults

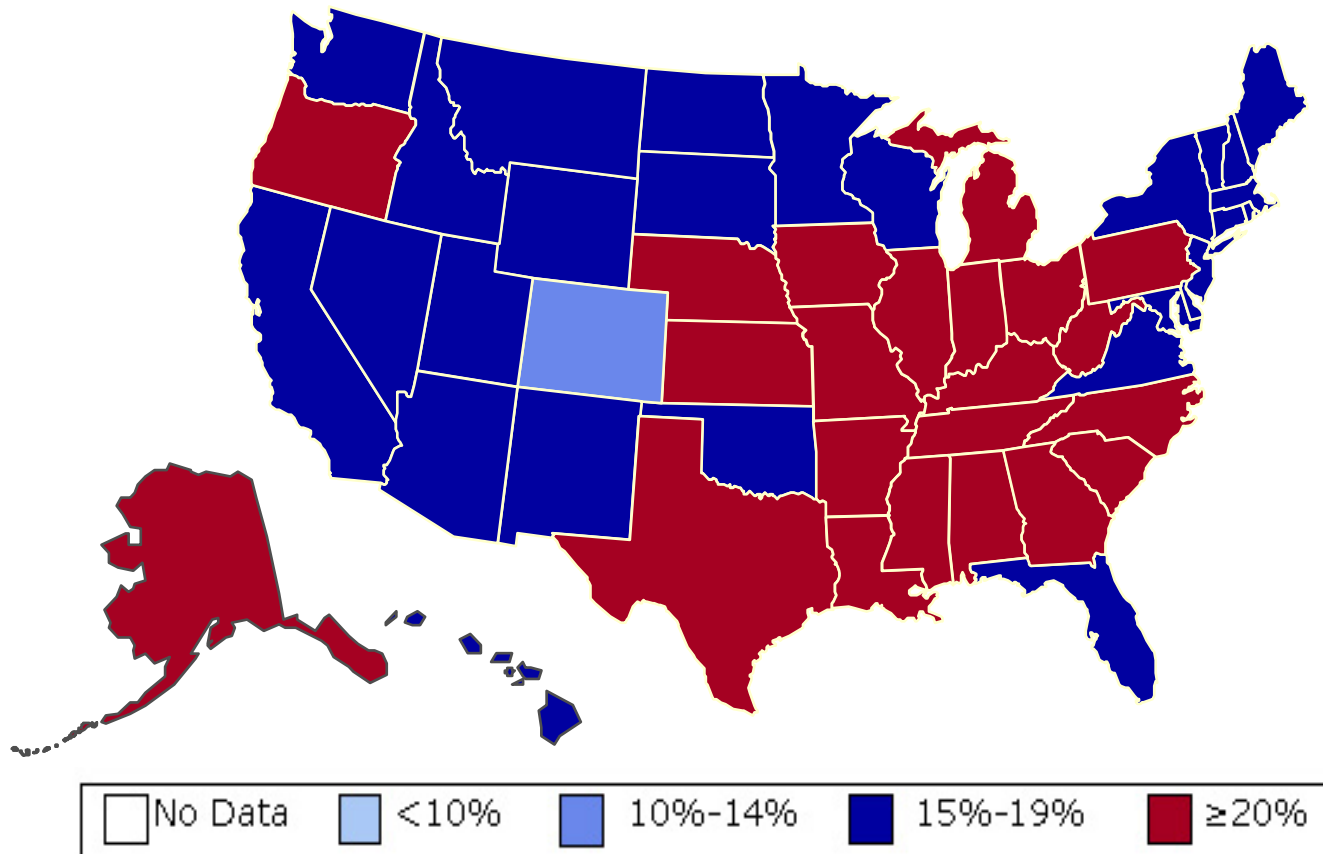
BRFSS, 1999

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



Obesity Trends* Among U.S. Adults

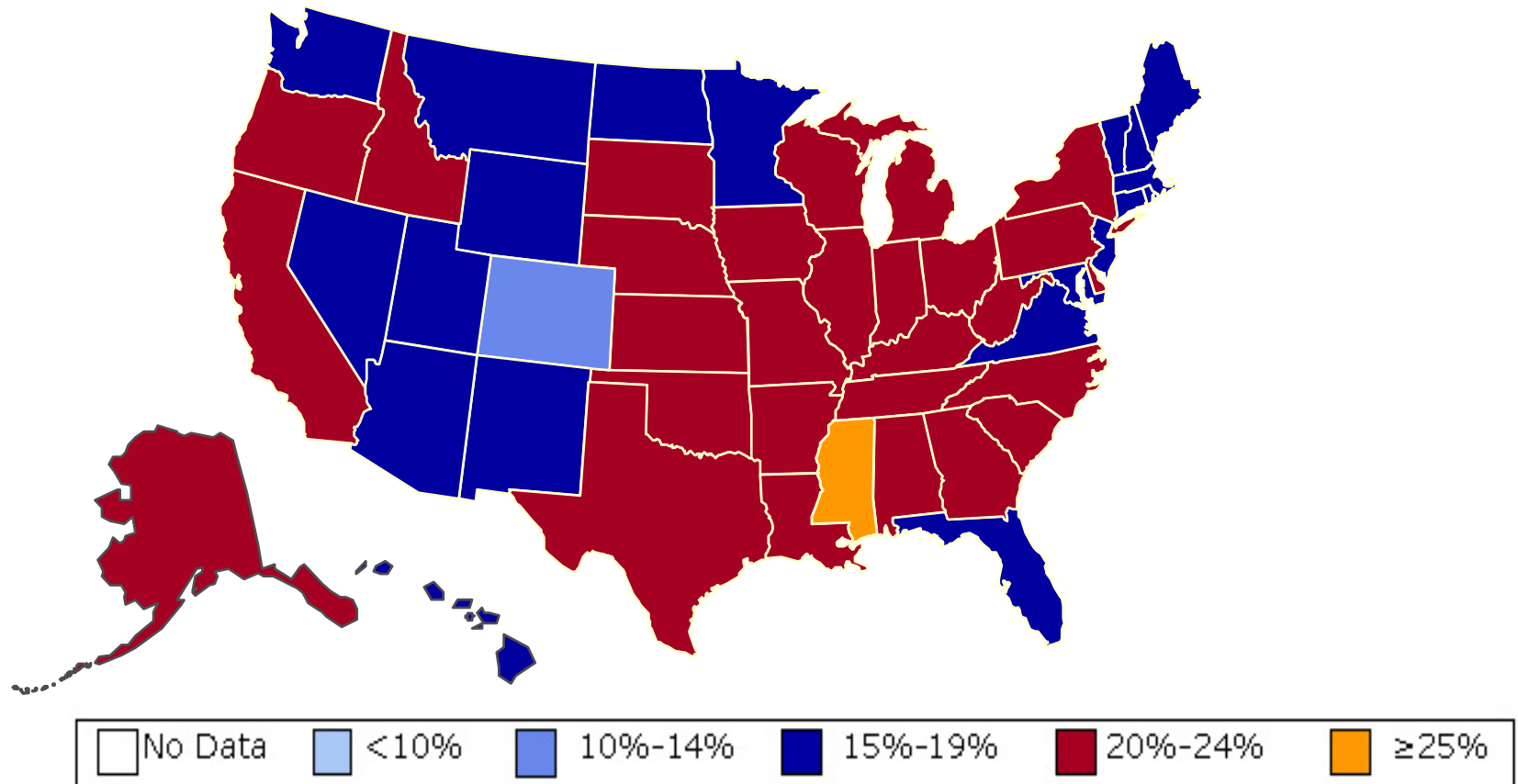
BRFSS, 2000

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)

Obesity Trends* Among U.S. Adults

BRFSS, 2001

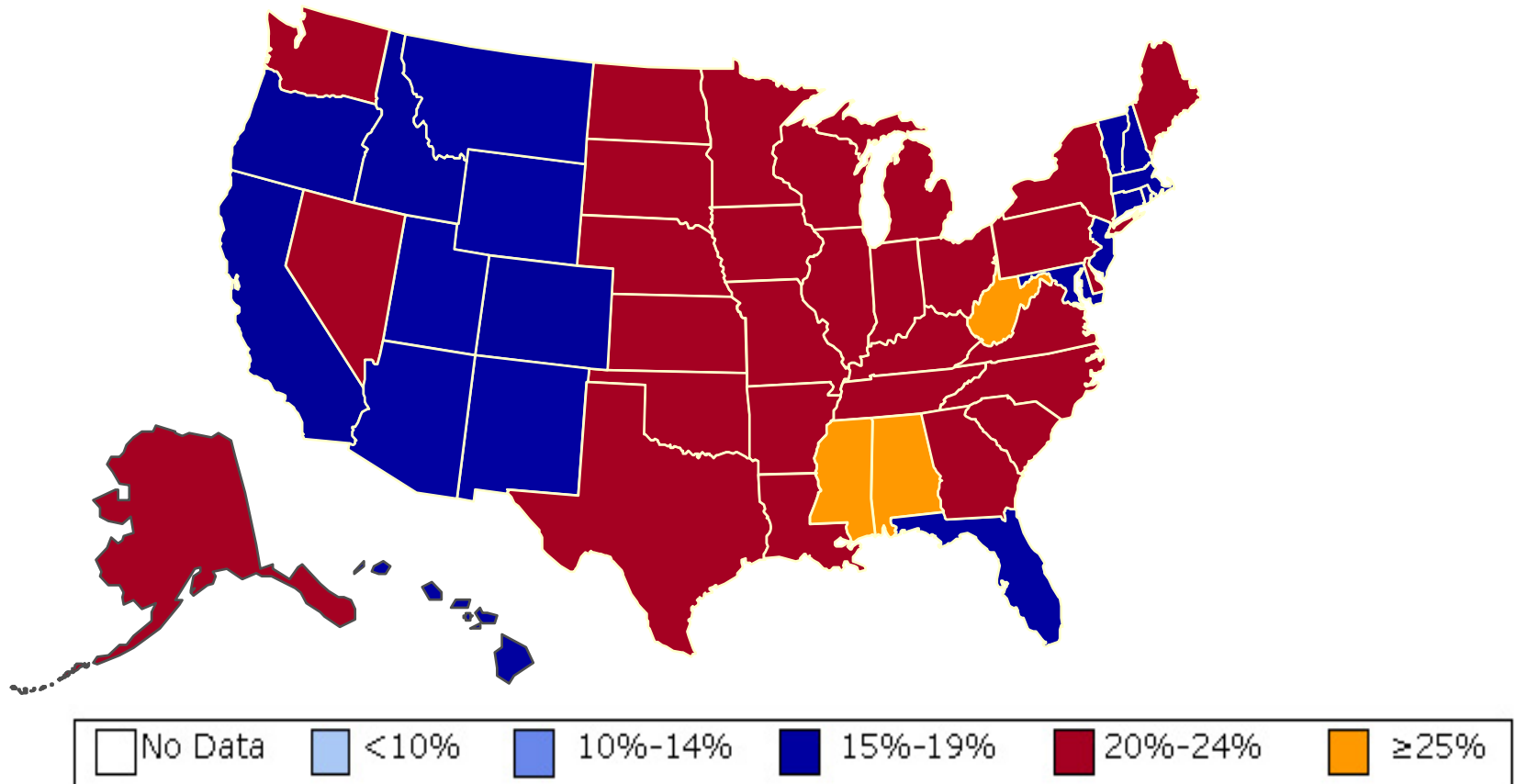
(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



Obesity Trends* Among U.S. Adults

BRFSS, 2002

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5'4" woman)



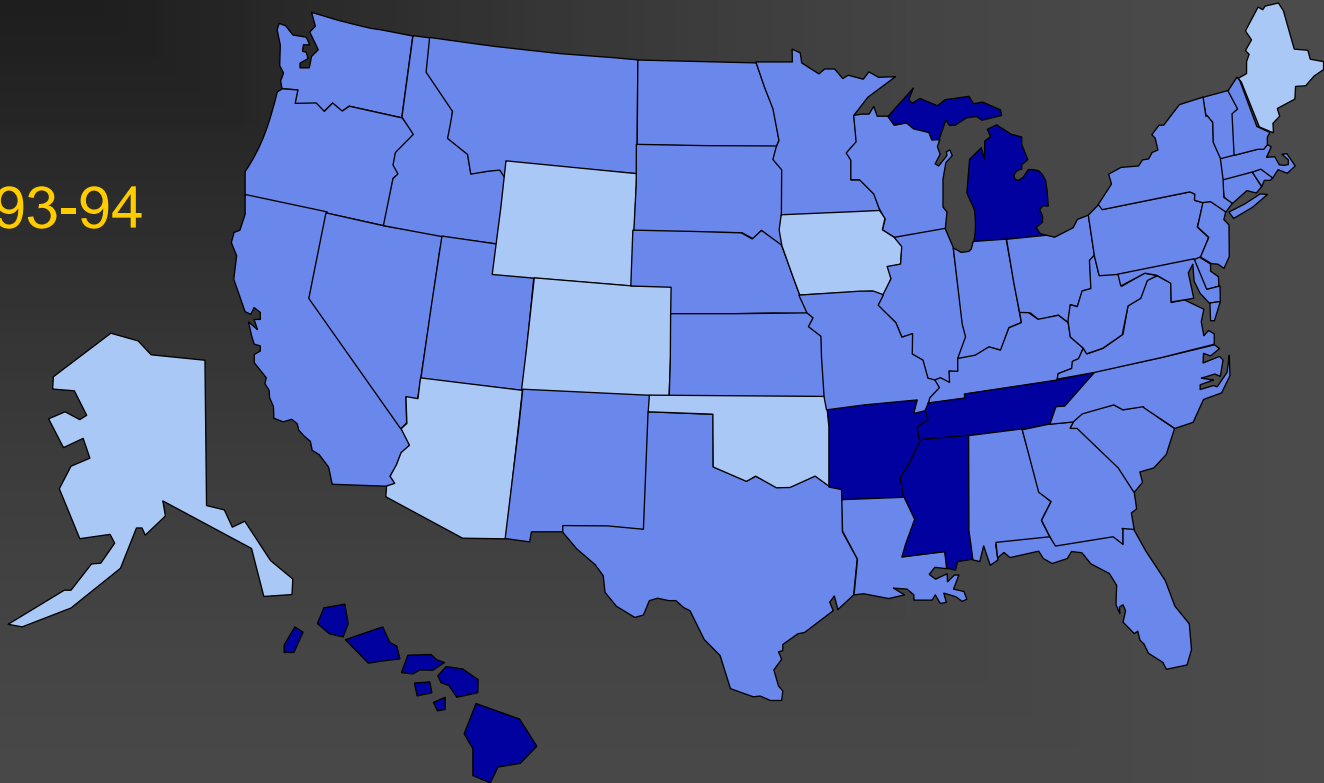
Our “Indicator Species” is in trouble



- The rate of overweight kids has doubled
- 70% chance of being overweight/obese as adults
- 78% don't get recommended activity
- 1 in 3 will be diabetic

1st generation of kids in the US that aren't
expected to live as long as their parents

1993-94



$<4\%$ 

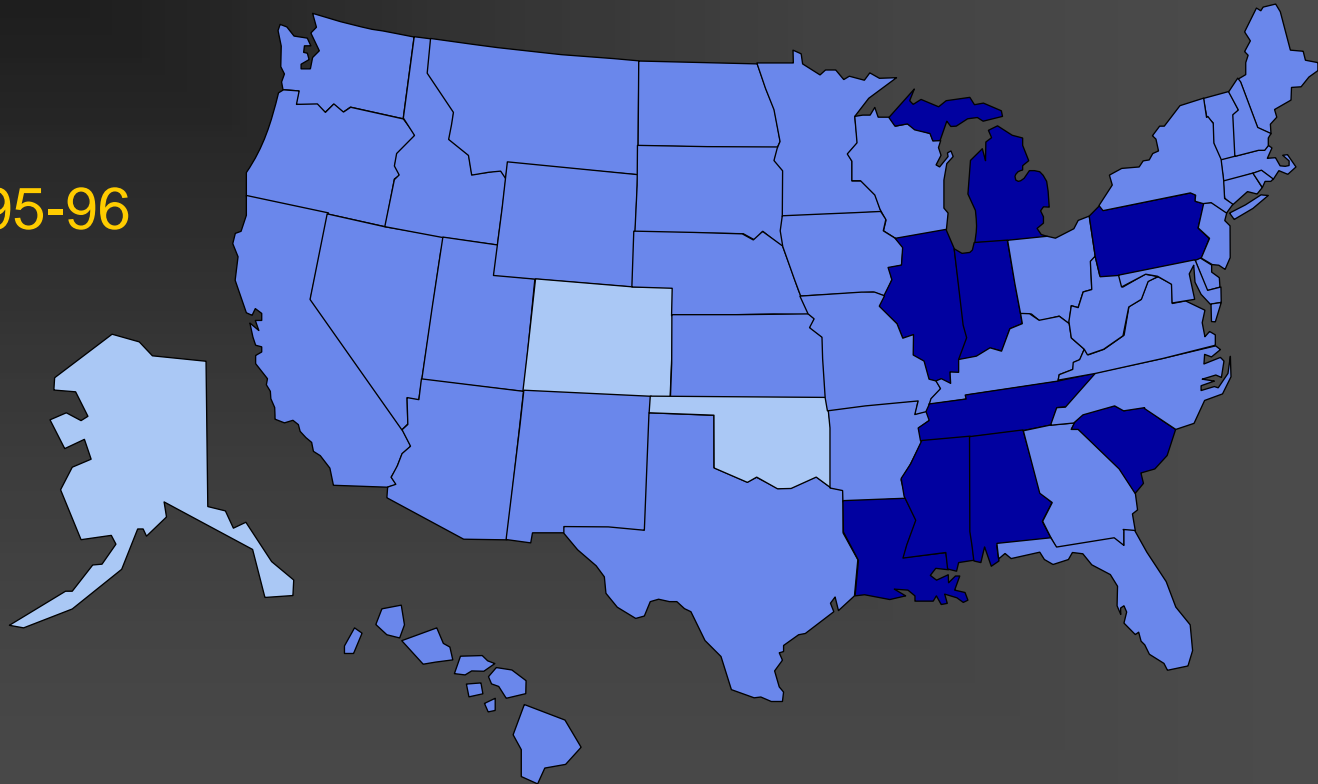
6%-8%

$>10\%$ 

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289:

Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS

1995-96

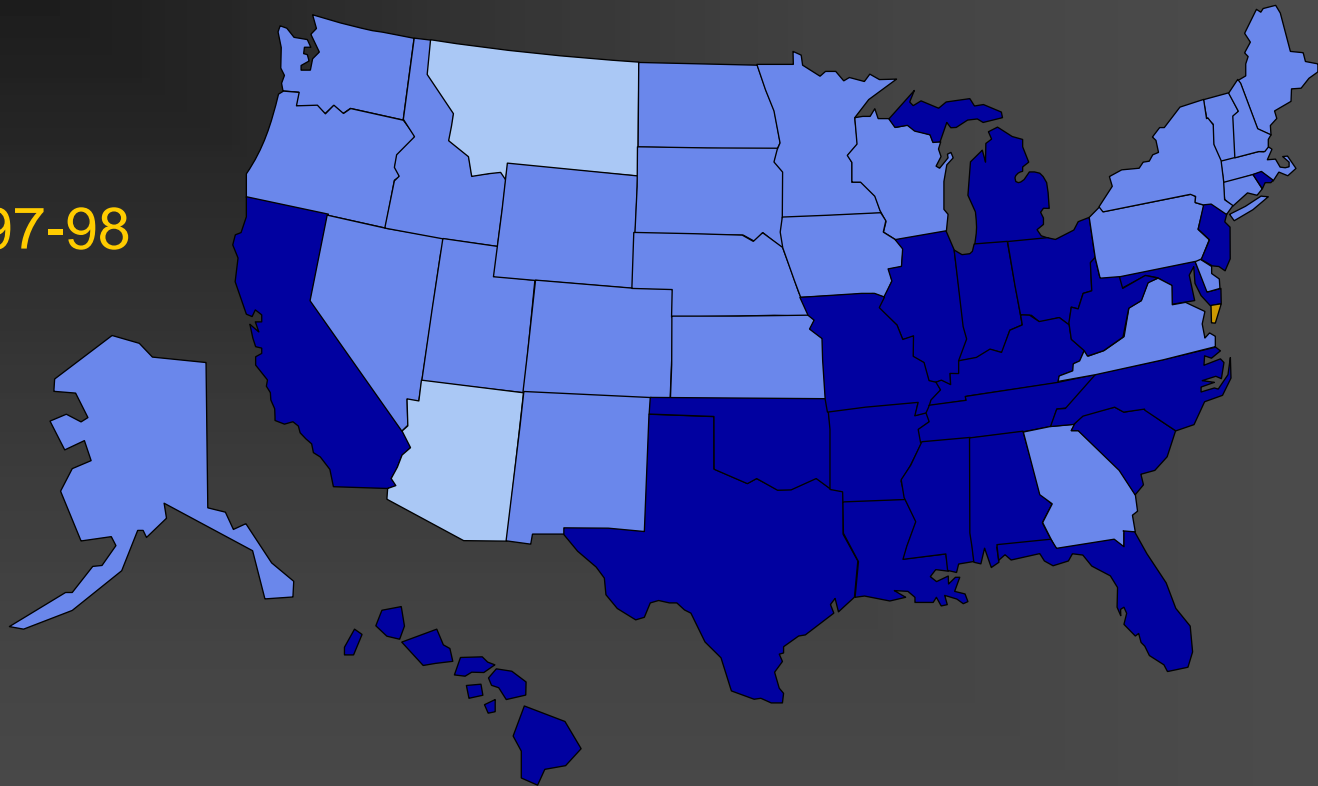


No Data ☐ <4% ☐ 4%-6% ☐ 6%-8% ☐ 8%-10% ☐ >10% ☐

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289

Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS

1997-98



No Data

<4%

4%-6%

6%-8%

8%-10%

>10%

Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289

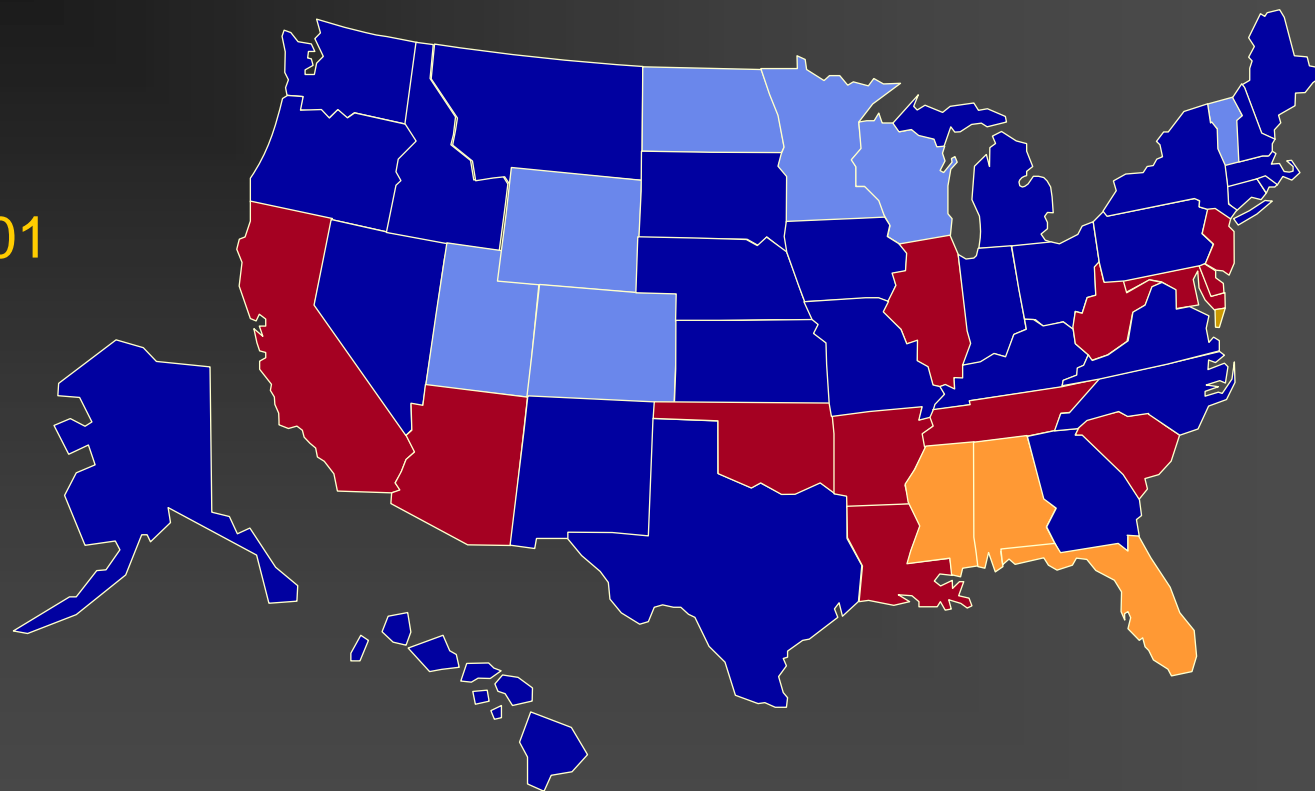
Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS



Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289:

Diabetes and Gestational Diabetes Trends Among Adults in the U.S., BRFSS

2001

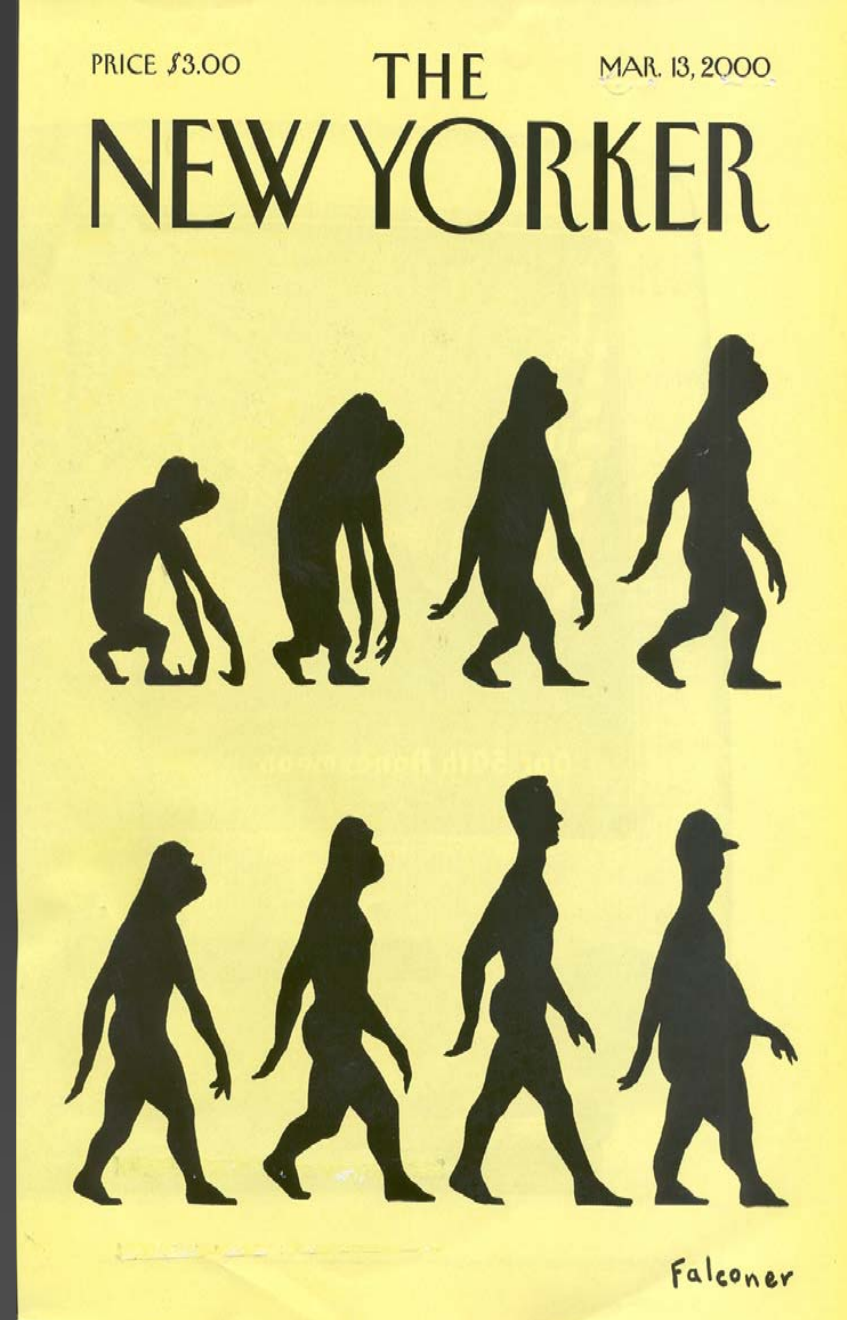


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Mokdad AH, Ford ES, Bowman BA, et al. Prevalence of obesity, diabetes, and other obesity-related health risk factors, 2001. JAMA 2003 Jan 1;289

Explaining the Epidemic

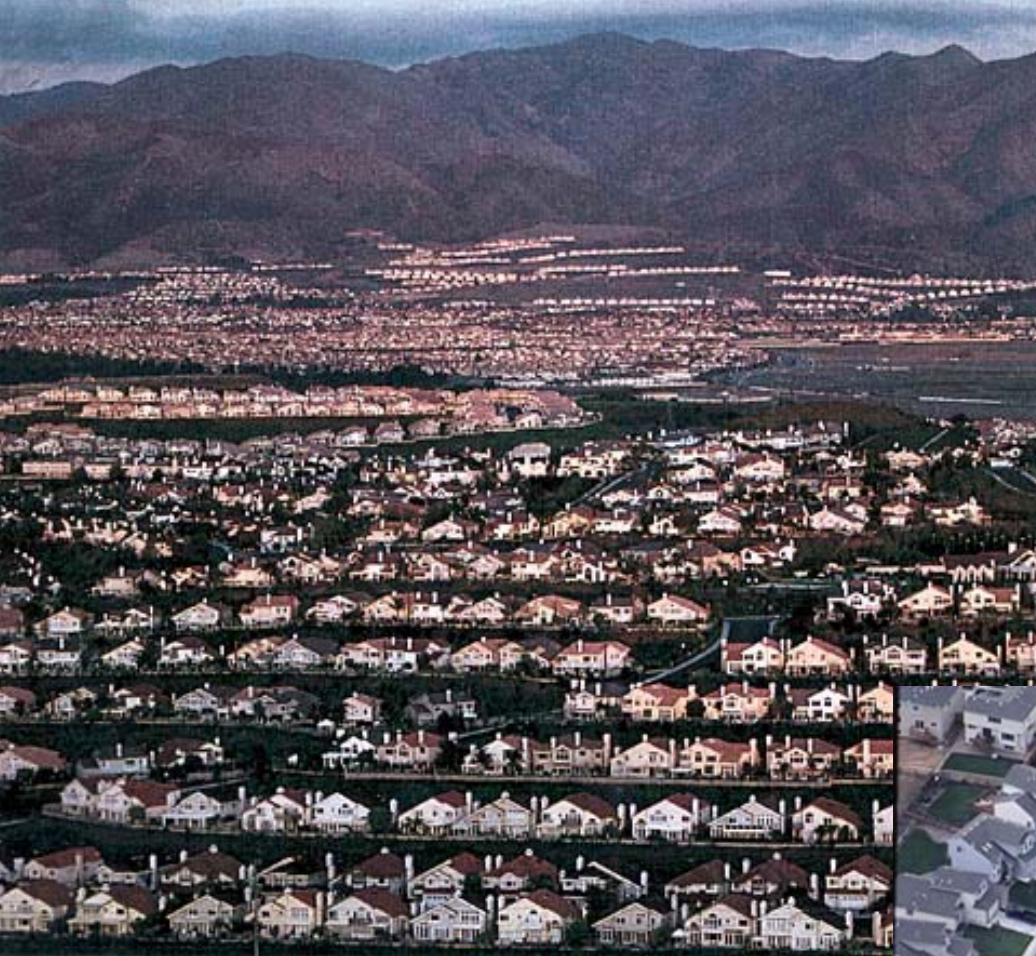
- Not genetic or biological changes
- But sweeping societal and environmental changes



Urban Sprawl



Separated land uses, low densities
and leap-frog development



Homogenous design

What about when Susie wants to go over to Janie's house?





Main Street, USA



Commercial Strip, USA



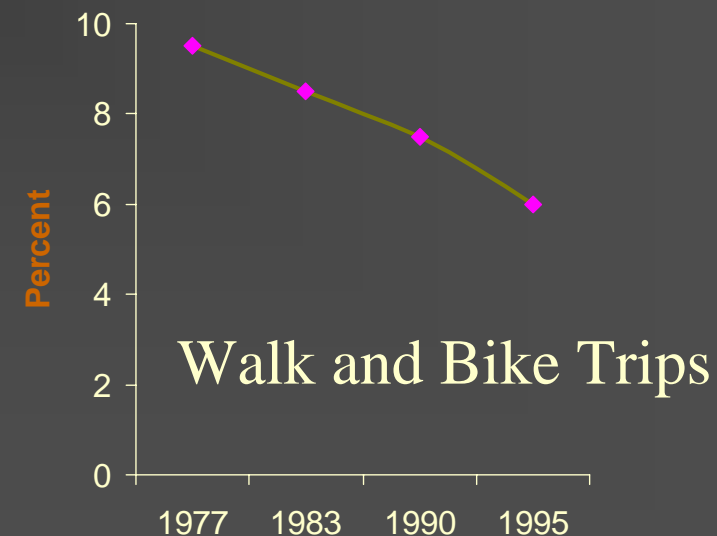
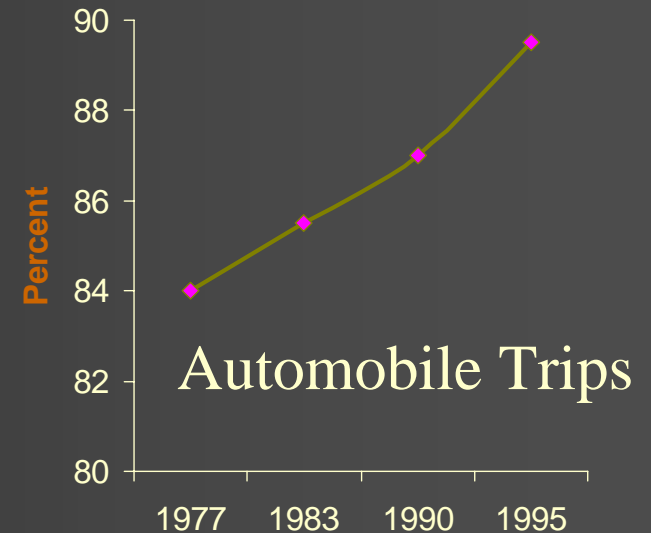
A Car Culture

- 250% increase in vehicle miles traveled (915 billion miles) (1960-1997)
- US average = 73 mins/day of driving
- 200% increase in workers commuting to another county



Walking replaced by driving

- 42% decline in walking
- 90% of trips done by car; less than 6% on foot
- 25% of all trips are one mile or less, but 75% of these trips are made by car



The disappearing walk to school



Photo: www.pedbikeimages.org / Dan Burden

- 25% of trips made by 5-15 year olds are for the journey to and from school.
- Only 10% of these trips are made by walking and bicycling.
- Of school trips one mile or less, about 28% are walk-based and less than 1% are bike-based

School Siting and Design



Credit: Manitovic Public School District

Then: the social and physical center of the community.

Now: on the fringes and too far for kids to walk.



Neighborhood environment is one of the strongest predictors of whether a person will be physically active.

Brownson, et al. 2001.

The built environment can facilitate or constrain physical activity.

TRB/IOM Report, 2005

Growing body of evidence

- San Diego study: 70 minutes more physical activity/week among residents in walkable neighborhood; 35% vs. 60% overweight (Saelens, Sallis, et. al. 2003)
- 6 lb weight difference in sprawling vs. compact counties
- King County study: 5% increase in neighborhood's "walkability index" correlated with 32% increase in active transportation; 0.23 point reduction in BMI (Frank, Sallis, et. al. 2006)

Community Design Policies Work!

The Task Force on Community Preventive Services concluded that:

- Community-scale policies & design are effective:
 - Zoning for compact, mixed-use development
 - Transit-oriented development
 - Policies related to street design & connectivity
- Street-scale policies & design are effective:
 - Traffic calming
 - Street lighting
 - Improving street crossings

Pedestrian improvements get more kids walking to school

- Marin, Co SR2S evaluation: 64% increase in number of kids walking to school with safety & traffic calming improvements & encouragement.
- CA SR2S evaluation: 15% of kids walked to school more often after physical improvements (vs. 4% when no improvements).

But, isn't it really just about making bad choices?



“It is unreasonable to expect people to change their behavior easily when so many forces in the social, cultural and physical environment conspire against such change.”

Institute of Medicine



Cars, Kids & Asthma

Asthma outbreak hits kids RISKS OF THE 'RED ZONE'



Asthma sufferer Tyrone Johnson, 2, breathes fresh air Friday as his aunt Susan Thomas tends him at Atlanta's Hughes Spalding Children's Hospital. Sky-high smog readings in metro Atlanta have produced a flare-up of asthma cases, especially among children.

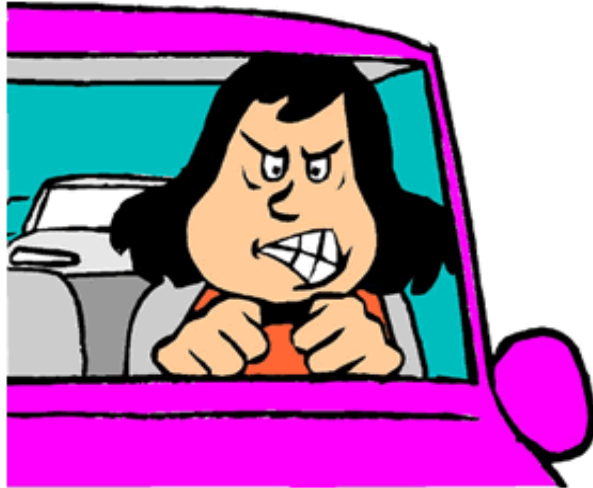
The Atlanta Journal-Constitution SATURDAY, AUG. 19, 2000

- The most common chronic illness among kids
- 7% more asthma among children living in neighborhoods with high traffic pollution (Cal EPA)
- 50% greater risk of asthma symptoms in 5-7yr olds living 250 ft or less of major road (McConnell et. al. 2006)



Driving, Stress and Mental Health

A Case of Road Rage...



- Longer commutes contribute to stress and road rage
- Stress contributes to heart disease, musculoskeletal symptoms, traffic collisions
- Depression, anxiety
- Less time for family, community

Trees: *Nature's Balm*



Living without trees



Living with trees

↓ Crime

↓ ADHD

↓ Aggression

↓ Stress

↑ Coping

↑ Social ties

Pedestrian Injury & Death

- 2.28 = rate of pedestrian deaths in HI
- 8% of trips on foot, but 22% of MV deaths are pedestrians (HI)
- Most dangerous = wide, arterials in suburban areas (South and Western metro areas of mainland)



Seniors and school kids are the most vulnerable pedestrians

Low priority for pedestrians and bicyclists



Access?



Safety?

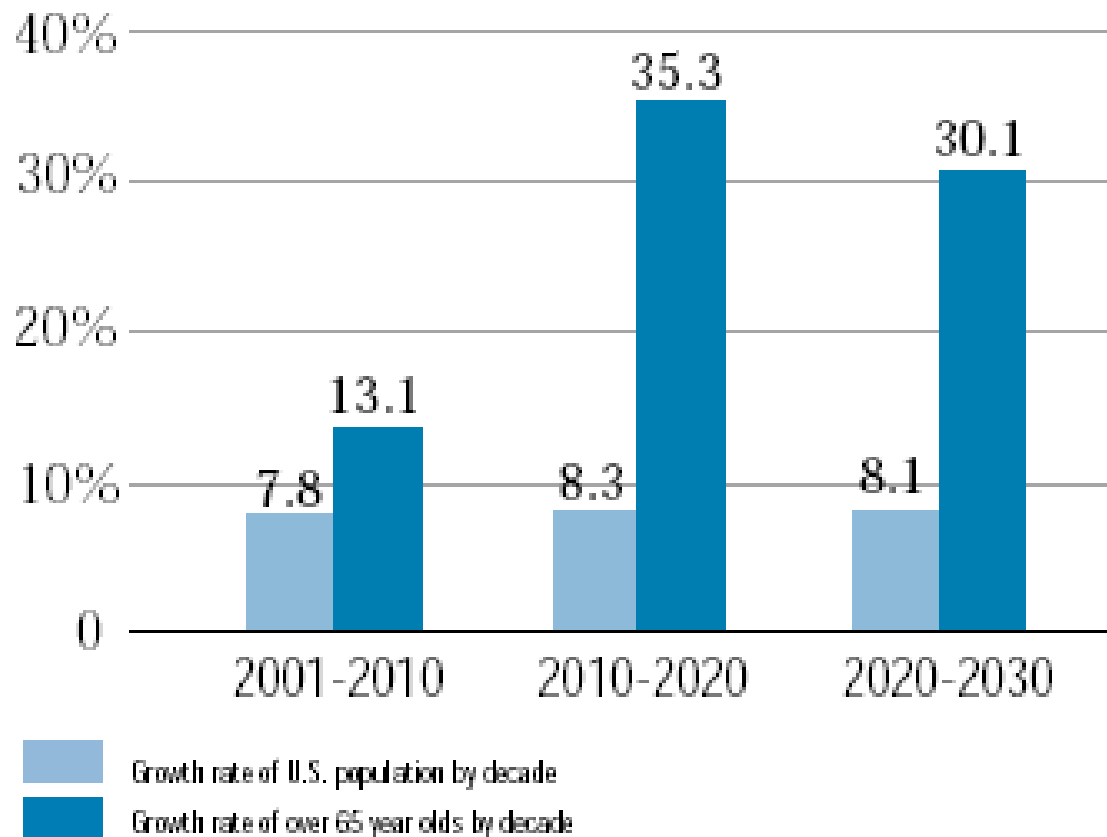
The forgotten pedestrian

- Traffic flow prioritized over pedestrian safety
- Transportation budgets allocate minimal funds to pedestrian projects (0.9% in HI)
- Engineering practices & traffic laws reflect bias & lack of understanding of child pedestrian behavior



If drivers were treated like pedestrians...

The “Graying of America”



By 2025, one in five Americans will be 65 years or older and over 6 million will be 85+ years

Smart Growth can promote senior health and mobility



- Fewer falls and hip fractures
- Increased mobility
- Maintain social networks
- Improve physical function and overall health
- Increase lifespan
- Improve quality of life



Expansive “Greenfield” Development



Developing open space and agricultural
land at a rate of 2.2 million acres per year

Water quality & quantity



- Fewer impervious surfaces
- Contamination from runoff
- Groundwater pollution
- H₂O shortages

Healthy neighborhoods promote social networks & social capital



- Loneliness and isolation are toxic; social relationships are healthy
- People with strong social networks:
 - Live longer
 - Have fewer heart attacks and heart disease
 - Are less depressed and use alcohol and drugs less
 - Have fewer teen births
 - Are healthier overall



The Public Health Impacts of the Built Environment



- Physical activity
- Obesity & chronic disease
- Pedestrian injuries/death
- Asthma & respiratory disease
- Crime & violence
- Social capital
- Elder health & mobility
- Water quality & quantity
- Mental health
- Health disparities

Consider the possibility that...

- The pattern of growth has upset the balance of human behavior
- The social costs of how we've developed may be far more reaching than traffic congestion



Are we designing for “healthy communities”?



Smart Growth: A Public Health Strategy

Ten Principals of Smart Growth

- Create walkable neighborhoods
- Mix land uses
- Take advantage of compact building design
- Foster distinctive, attractive places with a strong sense of place
- Strengthen and direct development towards existing communities
- Provide a variety of transportation choices
- Preserve open space, farmland and critical environmental areas
- Create a range of housing opportunities & choices
- Encourage community/stakeholder collaboration

The Public Health Potential of Smart Growth

SMART GROWTH PRINCIPLES	PA & Obesity	Pedestrian Injuries	Environmental Health	Social Capital	Mental Health	Health Disparities	Senior Health & Mobility
Create walkable neighborhoods	X	X	X	X	X	X	X
Mix land uses	X	X	X	X	X	X	X
Foster distinctive, attractive places with a strong sense of place	X			X	X	X	X
Strengthen and direct development towards existing communities	X		X			X	X
Provide a variety of transportation choices	X	X	X	X	X	X	X
Preserve open space, farmland, natural beauty and critical environmental areas	X		X	X	X		
Take advantage of compact building design	X			X			X
Create range of housing opportunities and choices				X	X	X	X
Encourage community and stakeholder collaboration	X	X		X	X	X	X
Make development decisions predictable, fair and cost effective							

RE-Integrating Health into Community Design

The challenge facing those with responsibility for assuring the health and quality of life of Americans is clear. We must integrate our concepts of ‘public health issues’ with ‘urban planning issues’. Urban planners, engineers, and architects must begin to see that they have a critical role in public health. Similarly, public health professionals need to appreciate that the built environment influences public health as much as vaccines or water quality.

Jackson & Kochtitzky, 2001



Learning from the environmental movement

Public Health's Call to Action

- Use the public health message to support walkable, bikable, livable community design
- Institutionalize health concerns into the land use and transportation planning decision-making process